

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) An image forming apparatus comprising:
  - a scanner section which reads a document in a main scanning direction and in a sub-scanning direction to provide image data indicating a density of each pixel within a document image for each image line in the main scanning direction;
  - a storing section which stores the image data provided from the scanner section in a memory;
  - a setting section which sets the number of image lines for calculation used for calculation of reference values for density correction;
  - a density histogram creating section which takes in the image data provided from the scanner for each image line and creates a density histogram of the document image on the basis of image data corresponding to the number of image lines for calculation set by the setting section ~~a predetermined number of image lines~~;
  - a correction reference value calculating section which calculates a set of correction reference values for pixel density correction using the density histogram created in the density histogram creating section;
  - a pixel density correcting section which reads out the image data stored in the memory and performs correction of a pixel density indicated by the image data on all the read image data using the set of correction reference values calculated in the correction reference value calculating section; and
  - an image forming means section which forms an image from the pixel density corrected in the pixel density correcting section.
2. (Currently Amended) The apparatus according to claim 1, wherein the number of image lines for calculation set by the setting section ~~the predetermined number of image lines~~ is equal to or less than that of all image lines of the document image read out from the scanner section.

3. (Currently Amended) The apparatus according to claim 1, wherein the storing section ~~comprises means which~~ starts reading-out of data when data corresponding to the number of image lines for calculation set by the setting section ~~the predetermined number of image lines~~ has been stored in the memory.

4. (Currently Amended) The apparatus according to claim 1, wherein the density histogram creating section ~~has means which~~ keeps a total data amount of the density histogram constant irrespective of the number of image lines taken in.

5. (Currently Amended) The apparatus according to claim 1, wherein the correction reference value calculating section comprises a detecting section ~~means~~ which detects two representative densities ( $D_B$ ,  $D_W$ ) of a background and a character of the document from the density histogram created by the density histogram creating section; and the pixel density correcting section ~~comprises means which~~ corrects the input pixel density according to the following equation.

$$D_N = (D_I - D_W) * FF[H] / (D_B - D_W)$$

where  $D_I$  is an input pixel density,  $D_W$  is a representative background density,  $D_B$  is a representative character density,  $FFh$  is the maximum density indicated by hexadecimal number, and  $D_N$  is a corrected pixel density.

6. (Currently Amended) An image processing system comprising:  
a storing section which stores image data for each image line, the image data indicating a density of each pixel within a document image into a memory;  
a setting section which sets the number of image lines for calculation used for calculation of reference values for density correction;  
a histogram creating section which takes in the image data indicating the density of each pixel within the document image and creates a density histogram of the document image on the basis of ~~a predetermined amount of image data~~ corresponding to the number of image lines for calculation set by the setting section;  
a correction reference value calculating section which calculates a set of correction reference values for pixel density correction using the density histogram created in the histogram creating section; and

a pixel density correcting section which reads out image data stored in the memory and corrects a pixel density indicated by the image data regarding all the image data read out using the set of correction reference values calculated in the correction reference value calculating section.

7. (Currently Amended) The system according to claim 6, wherein the number of image lines for calculation set by the setting section ~~the predetermined amount of image data~~ is equal to or less than that of all image lines of ~~an amount of image data corresponding to a partial region in~~ the document image.

8. (Currently Amended) The system according to claim 6, wherein the storing section ~~comprising means which~~ starts reading-out of data when ~~the predetermined amount of~~ image data corresponding to the number of image lines for calculation set by the setting section has been stored in the memory.

9. (Currently Amended) The system according to claim 6, wherein the histogram creating section ~~comprises means which~~ keeps a total data amount of the density histogram constant irrespective of the amount of image data taken in.

10. (Currently Amended) An image processing method comprising the steps of:  
storing image data for each image line, the image data indicating a density of each pixel within a document image into a memory;

setting the number of image lines for calculation used for calculation of reference values for density correction;

taking in the image data indicating the density of each pixel within the document image to create a density histogram of the document image on the basis of ~~a predetermined amount of~~ image data corresponding to the number of image lines for calculation set by the setting step;

calculating a set of correction reference values for pixel density correction using the density histogram; and

reading out image data stored in the memory to correct a pixel density indicated by the image data regarding all the image data read out using the set of correction reference values.

11. (Currently Amended) The method according to claim 10, wherein the number of image lines for calculation the predetermined amount of image data is equal to or less than that of all image lines of an amount of image data corresponding to a partial region in the document image.

12. (New) The apparatus according to claim 1, wherein the respective pixel density for all the image data corresponding to the document image is corrected by the pixel density correction section, using only the set of correction reference values.

13. (New) The system according to claim 6, wherein the respective pixel density for all the image data corresponding to the document image is corrected by the pixel density correction section, using only the set of correction reference values.

14. (New) The method according to claim 10, wherein the respective pixel density for all the image data corresponding to the document image is corrected in the reading out step using only the set of correction reference values.